

REMARKS

Present Claim 1 recites a membrane that includes first and second oxide fractions.

The second oxide fraction is described as follows:

...the second fraction comprises a silicon network bonded (i) via oxygen atoms to said oxides of said ceramic coating, (ii) via organic radicals to said polymeric nonwoven and (iii) via at least one carbon chain to a further silicon atom...

In the Amendment filed on March 9, 2009, Applicants set forth clear and cogent reasons why the membrane of the presently claimed invention is not disclosed in the Hennige Canadian Patent (CA 2,477,062) (see pages 10-12 of the March 9 Amendment). For example, Hennige fails to disclose the structural characteristic identified as “(iii)” in Claim 1.

The Office appears to be of the opinion that this feature of the presently claimed invention is implicitly and/or inherently disclosed in the Hennige patent. The Office asserts:

The Examiner reviewed the entire CA '062 reference, and compared the materials and process of making the membrane and resulting membrane from the description and examples in the reference. The Canadian patent '062 uses the same material for the coating layer on the nonwoven polymeric support, the same nonwoven support material, and the same adhesion promoters producing the silicon network as in the present invention. Applicant argues that the bonding the silicon network in the prior art Si-O-Si linkages are produced and not SIO₂ bonding are produced; however, by comparing the adhesive promoters, support material and the coating material or inorganic particles and sol used in the CA patent, the same claimed network can be produced. Applicant has not explain with clarify why or how the same compositions, applied to the same organic support and coating material in the same way, e.g. by coating the support with silicon network adhesive materials or promoters, or by providing the promoters within the sol, produces a distinct network or different linkages between the silica and the support. ...

See the paragraph bridging pages 2 and 3 of the June 4 Office Action.

Applicants submit the Office's assertion is not correct. For example, none of the examples of Hennige disclose the inclusion of a combination of different adhesion promoters such as a combination of Dynasilan GLYMO and AMEO. As expressly pointed out in the

original specification, the use of a combination of adhesion promoters is of substantial importance:

It has now been found that, surprisingly, the use of a combination of at least two different adhesion promoters based on alkyltrialkoxysilanes wherein the alkyl group of one adhesion promoter comprises a substituent capable of reacting with a substituent on the alkyl group of the other adhesion promoter to form a covalent bond in the production of the ceramic coating provides a coating which is notable for distinctly improved adhesion. Surprisingly, the ceramic coatings thus produced are also very stable to the action of water, which is why the membranes thus produced can be used not only as a separator but also as a filtration membrane in liquid filtration applications.

See page 3, lines 11-18 of the present specification.

Hennige does not disclose the inclusion of two different adhesion promoters that contain alkyl groups that react with one another to form a covalent bond. Further, Hennige does not disclose or suggest using a mixture comprising both Dynasilan GLYMO and AMEO. Thus, in one embodiment of the invention, two different adhesion promoters are included during the preparation of a sol that is used for coating a polymeric substrate. By including at least two different adhesion promoters which are capable of reacting with one another to form a covalent bond, Applicants are able to form the silicon network that is a structural feature of the second fraction of oxide recited in present Claim 1. Hennige does not disclose the silicon network of the second oxide fraction of the present claims.

In short, the Office failed to provide a reasonable explanation how the Hennige patent discloses or suggests the structural characteristics of the second oxide fraction of present Claim 1. The Office did nothing more than merely assert that the presently claimed invention is not patentable because the Hennige patent and the present specification (never mind the present claims) share some words in common. The burden is on the Office to set forth a *prima facie* case of obviousness. Here the Office failed to do so because the Office failed to

demonstrate how Hennige discloses or suggest the structural features of at least the second oxide fraction of present Claim 1.

For the reasons set forth above, Applicants submit the rejection of the claims as obvious over Hennige is not supportable and should be withdrawn.

The obviousness-type double patenting rejections should also be withdrawn in view of the arguments above. The Office is unable to demonstrate how the claims of the copending applications disclose or suggest all of the features of present Claim 1. The Office's reliance on Hennige as evidence that it would be obvious to include this structural feature in the claims of the co-pending applications must fail because, as stated above, the Hennige patent fails to disclose this feature of the claimed invention.

Applicants request withdrawal of the rejections.

Respectfully submitted,

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